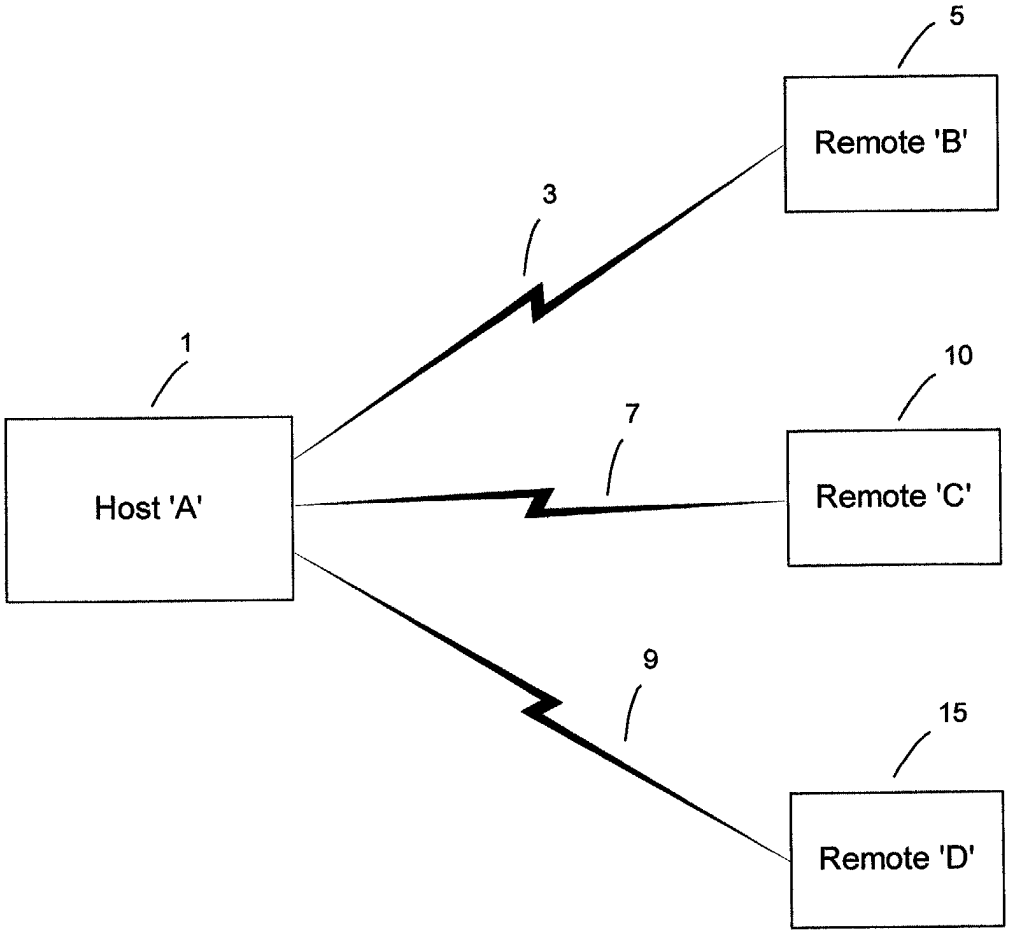

FIG. 1

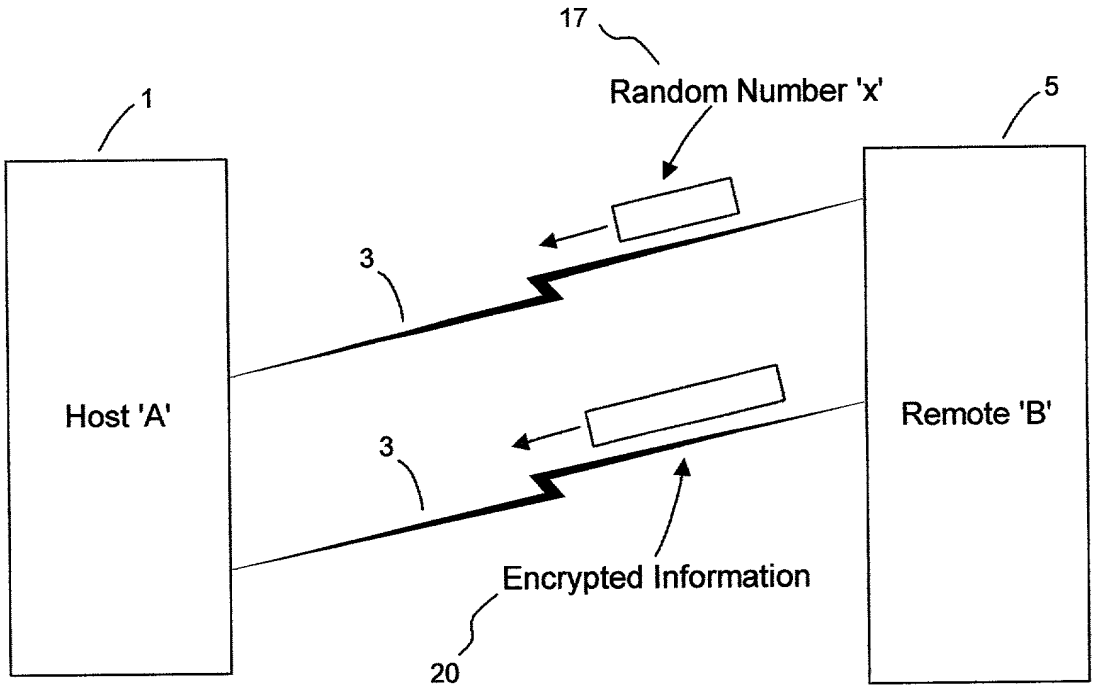
17
Random Number 'x'
1
5
3
Host 'A'
Remote 'B'
3
Encrypted Information
20

FIG. 2

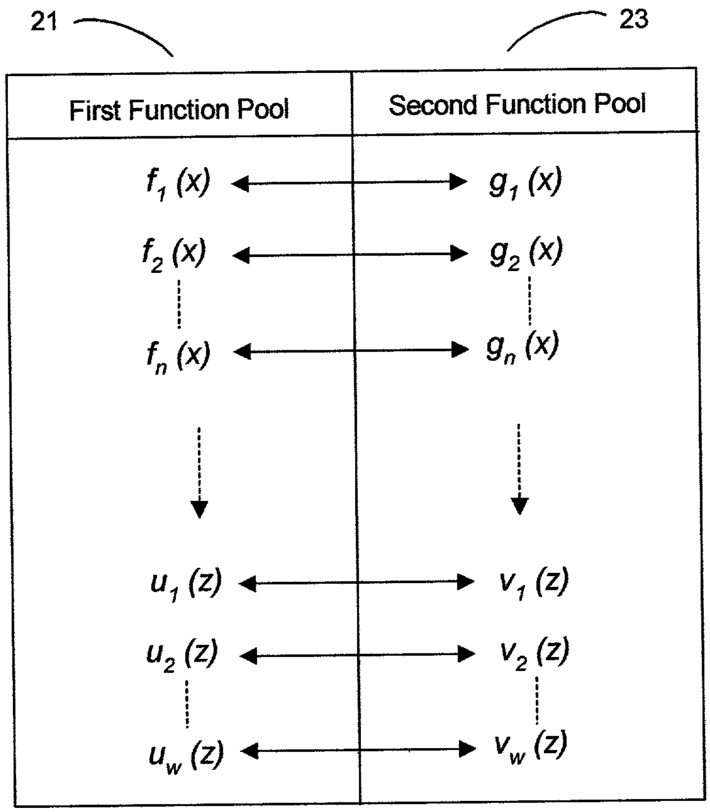
21
23
First Function Pool
Second Function Pool
f1 (x)
g1 (x)
f2 (x)
g2 (x)
fn (x)
gn (x)
u1 (z)
v1 (z)
u2 (z)
v2 (z)
uw (z)
vw (z)

FIG. 3

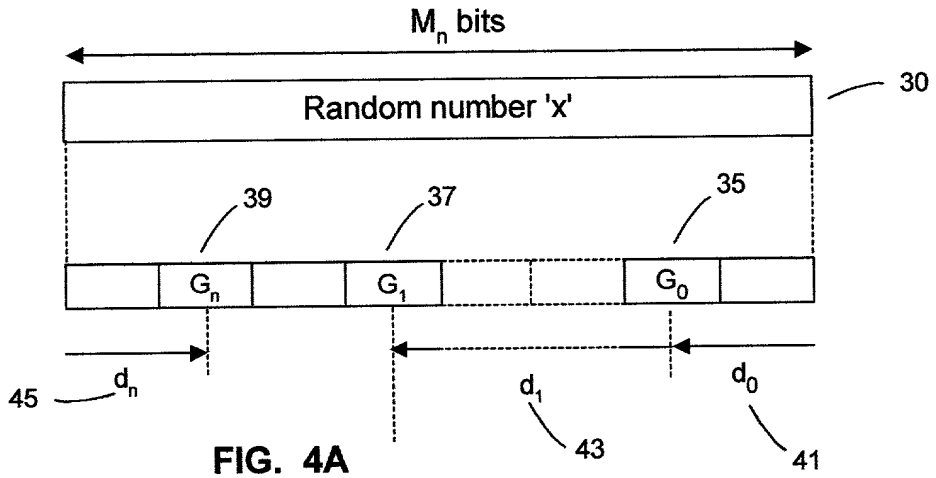

FIG. 4A

$M_{max} \leq M_n \leq M_{min}$

Table for M_n

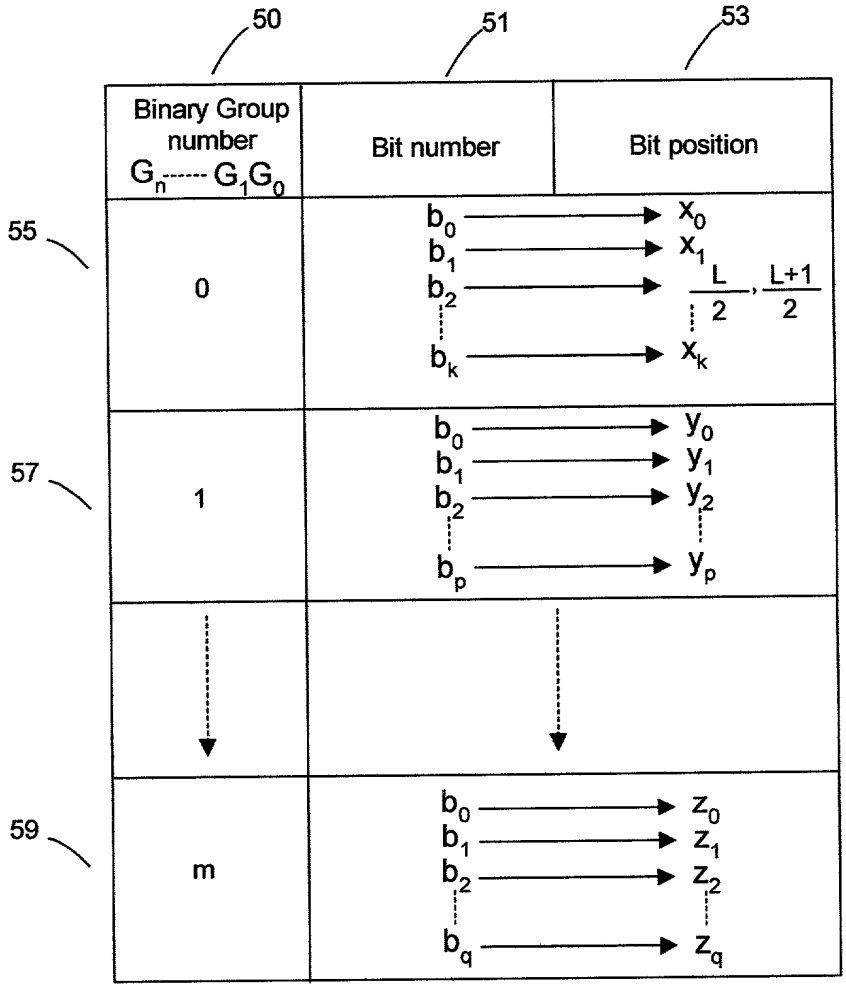

FIG. 4B

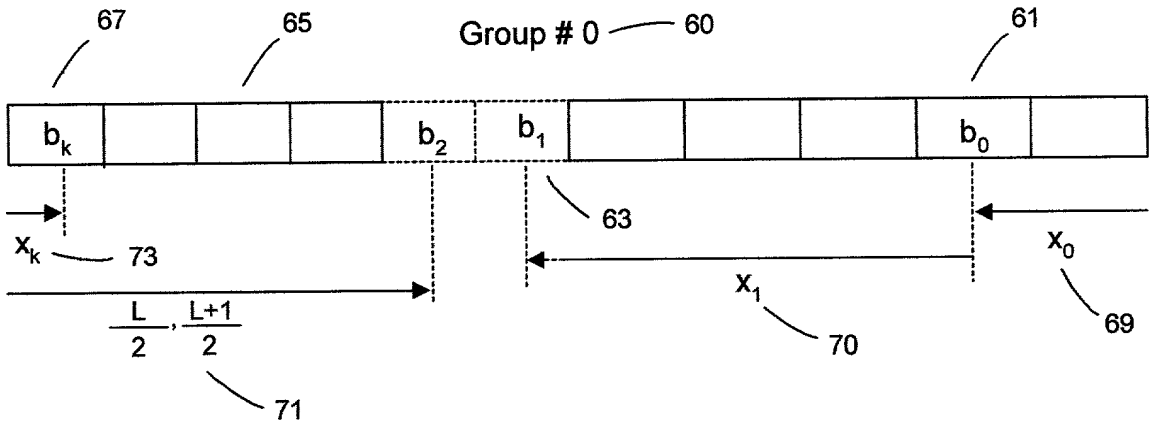

FIG. 5A

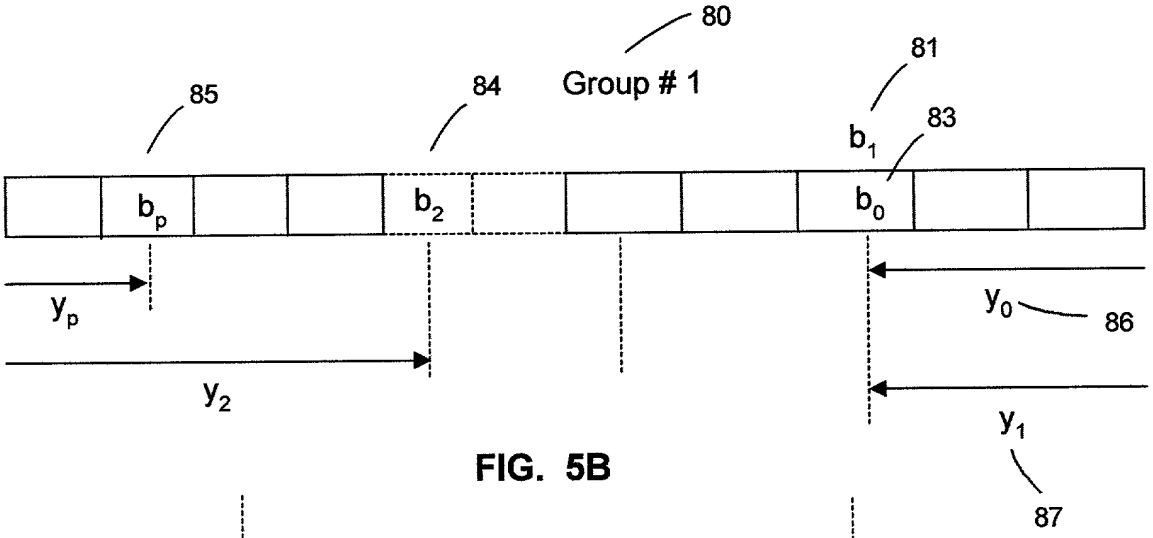

FIG. 5B

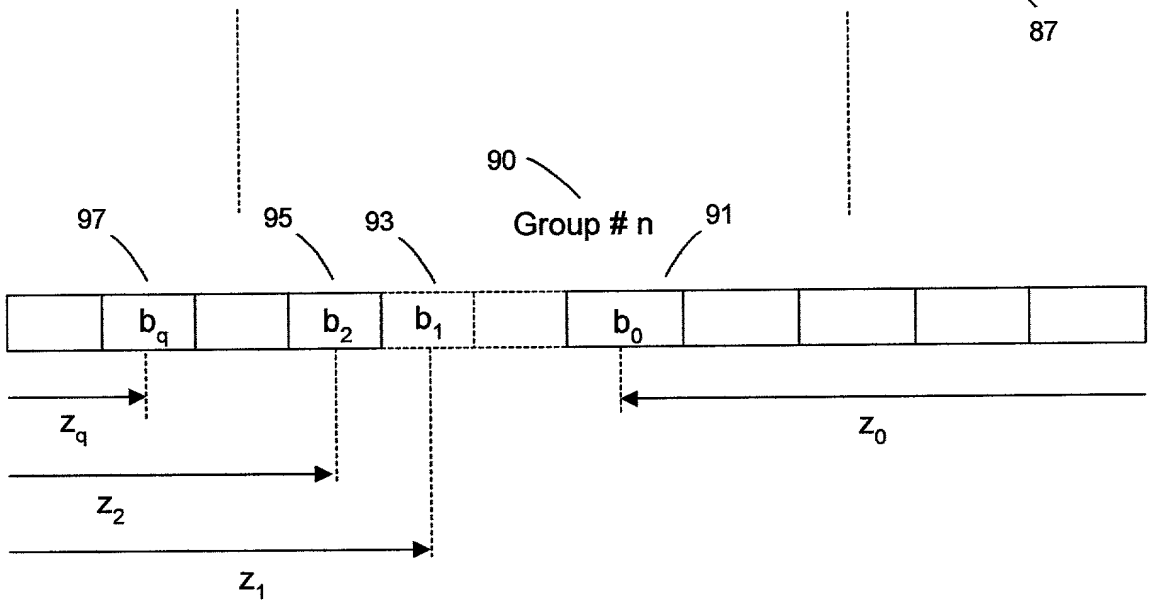

FIG. 5C

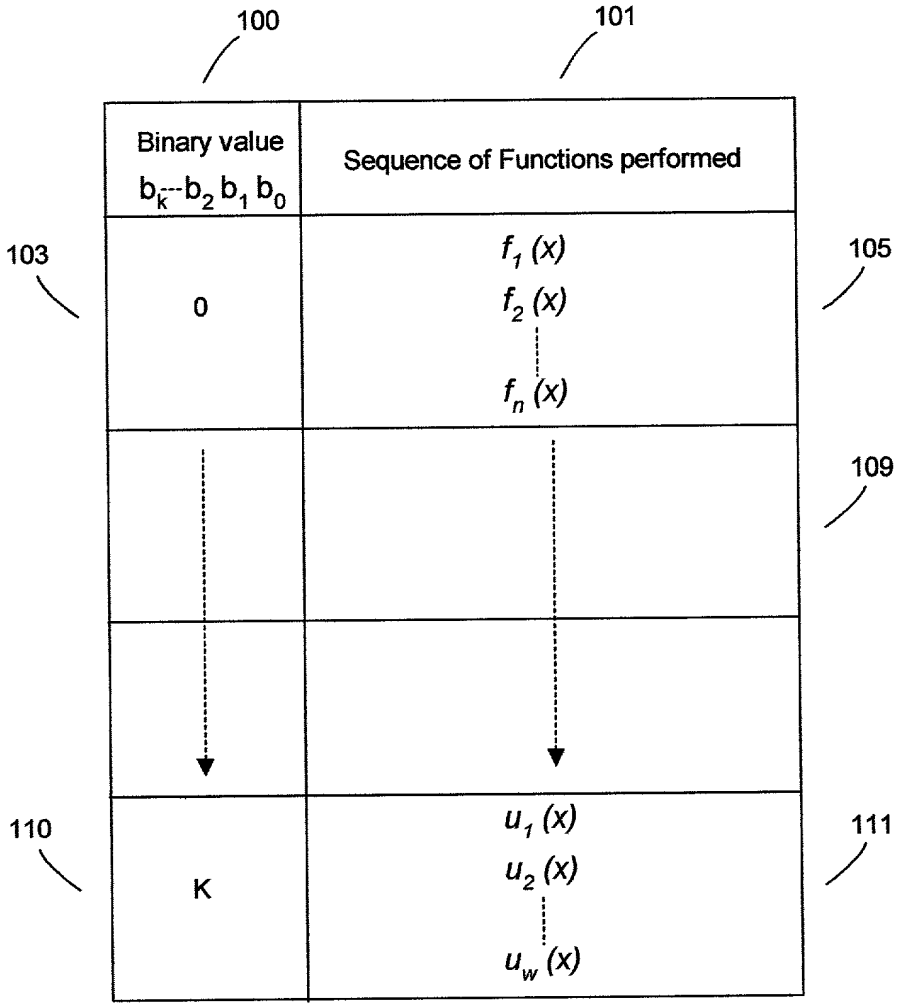
100
101
Binary value
b_k---b_2 b_1 b_0
Sequence of Functions performed
103
105
0
$f_1(x)$
$f_2(x)$
$f_n(x)$
109
110
111
K
$u_1(x)$
$u_2(x)$
$u_w(x)$

FIG. 6

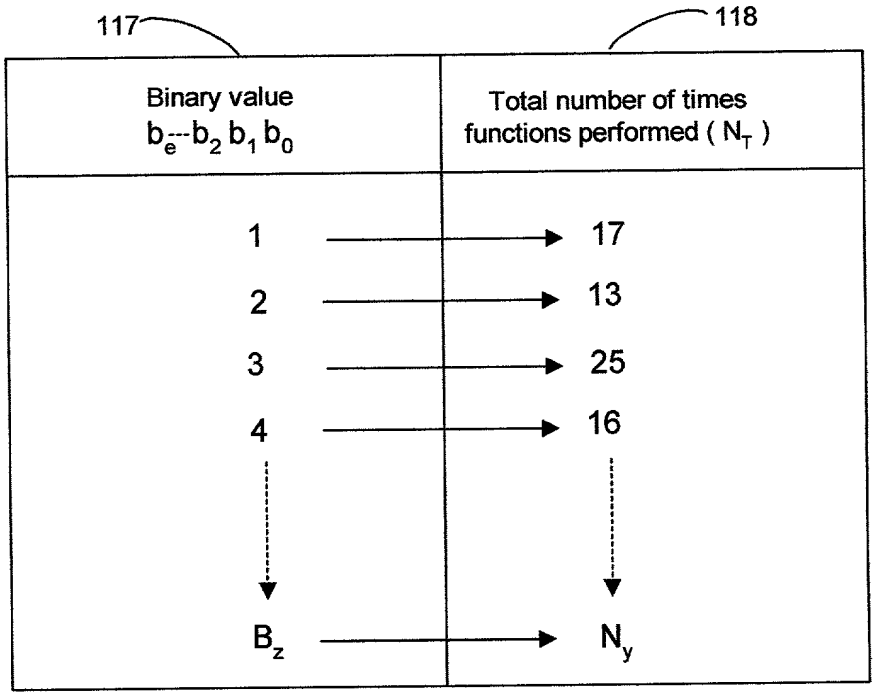
117
118
Binary value
b_e---b_2 b_1 b_0
Total number of times functions performed (N_T)
1
2
3
4
B_z
17
13
25
16
N_y

FIG. 7

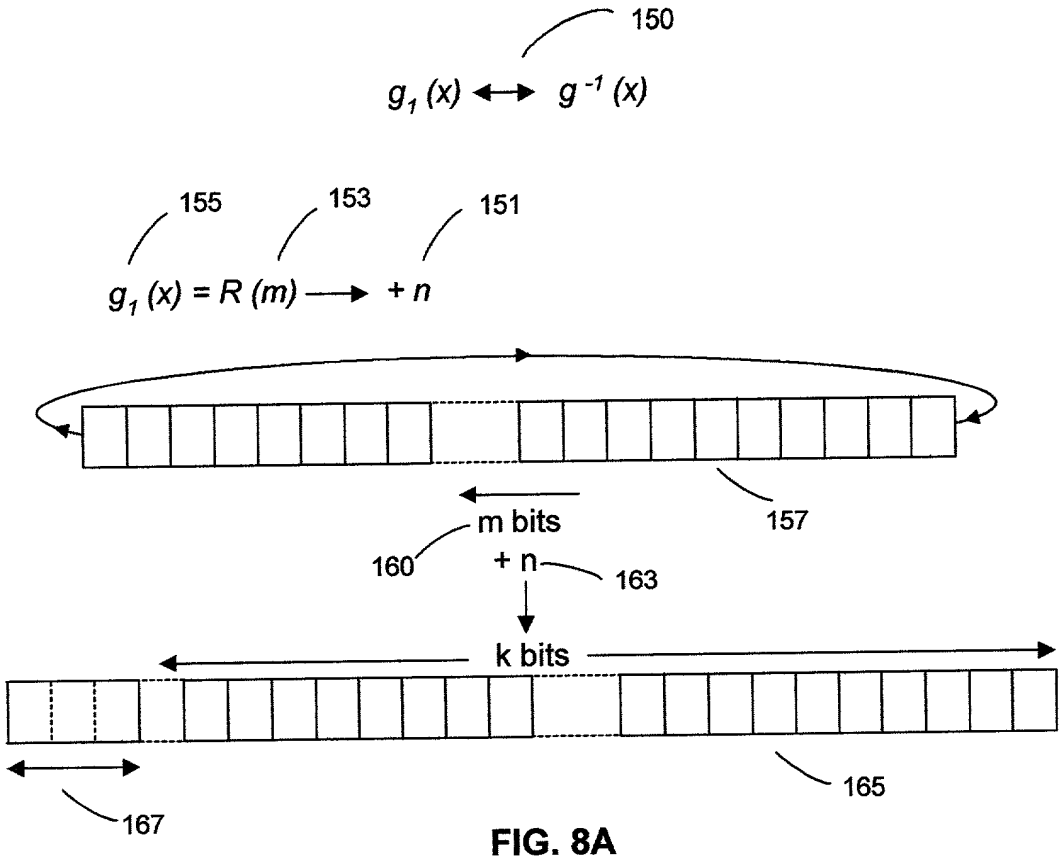
150
$g_1(x) \leftrightarrow g^{-1}(x)$
155
153
151
$g_1(x) = R(m) \rightarrow +n$
m bits
157
160
+ n
163
k bits
165
167

FIG. 8A

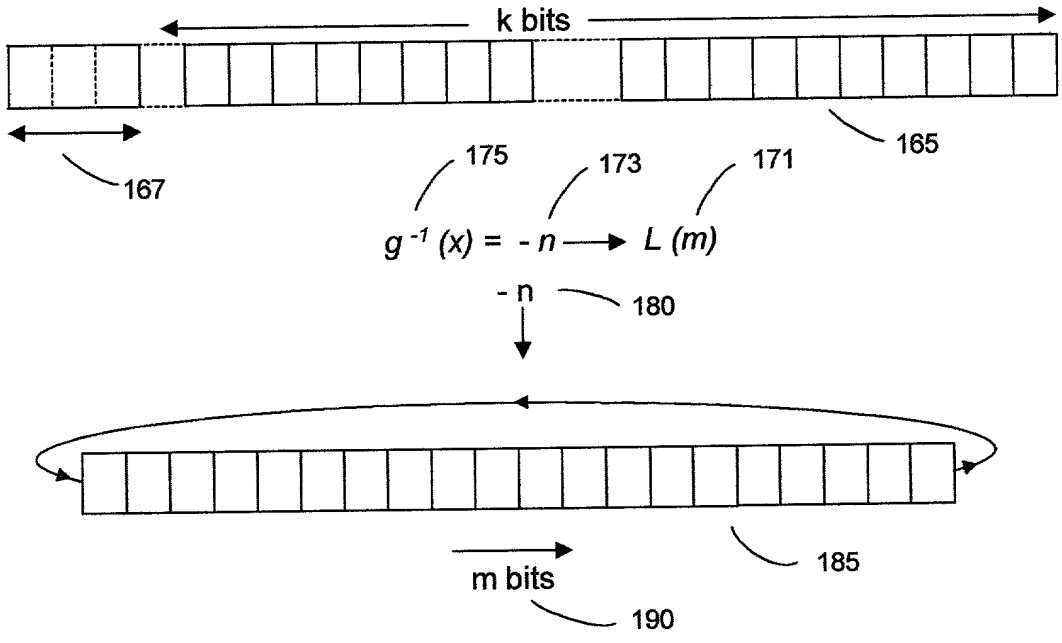
k bits
165
167
175
173
171
$g^{-1}(x) = -n \rightarrow L(m)$
- n
180
185
m bits
190

FIG. 8B

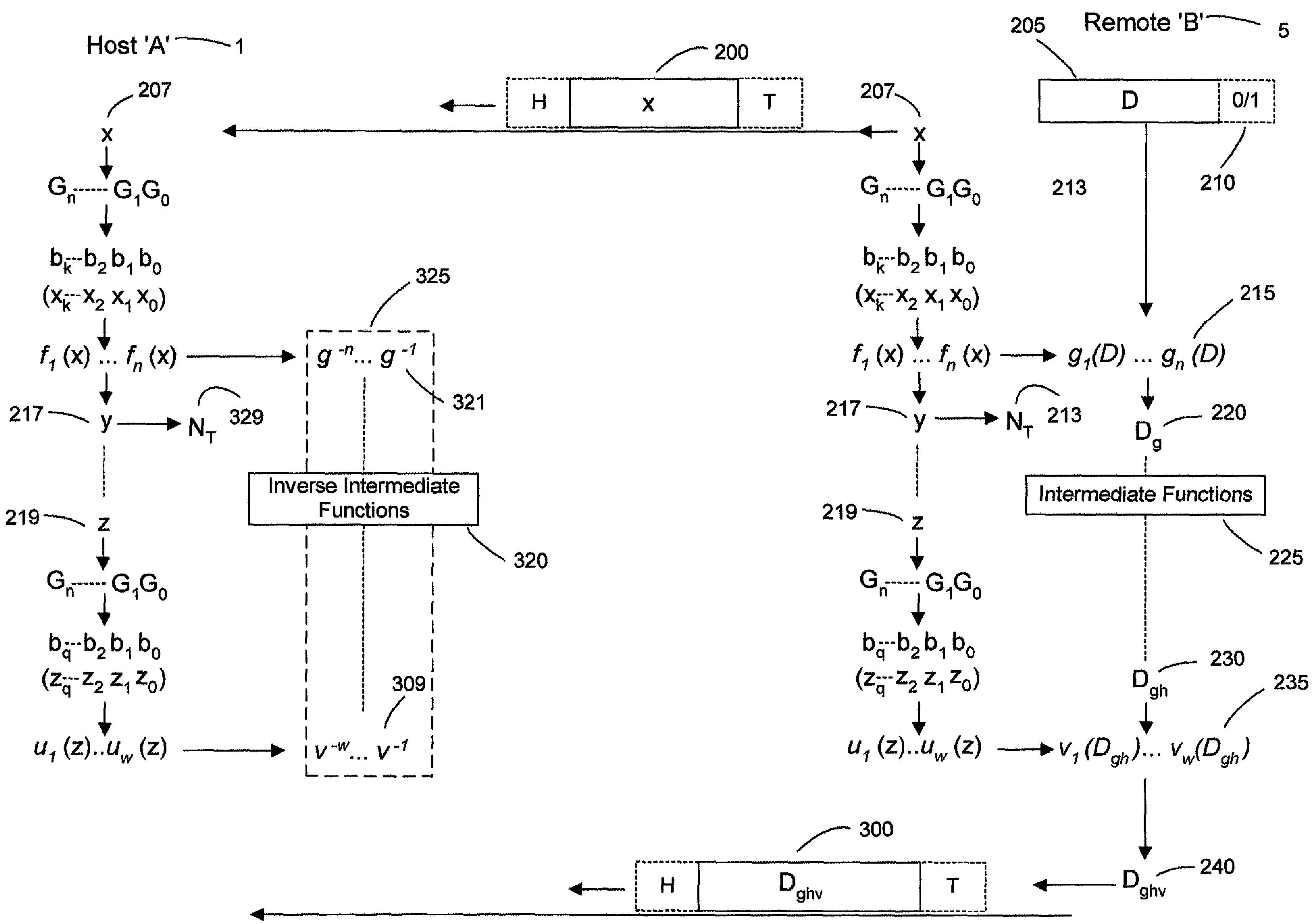
Host 'A'
1
Remote 'B'
5
205
200
H
x
T
D
0/1
207
210
213
x
$G_n \cdots G_1 G_0$
$b_k \cdots b_2\, b_1\, b_0$
$(x_k \cdots x_2\, x_1\, x_0)$
$f_1(x) \ldots f_n(x)$
325
215
$g^{-n} \ldots g^{-1}$
$g_1(D) \ldots g_n(D)$
321
217
y
N_T
329
213
D_g
220
Inverse Intermediate Functions
Intermediate Functions
219
z
320
225
$b_q \cdots b_2\, b_1\, b_0$
$(z_q \cdots z_2\, z_1\, z_0)$
309
230
D_{gh}
235
$u_1(z)..u_w(z)$
$v^{-w} \ldots v^{-1}$
$v_1(D_{gh}) \ldots v_w(D_{gh})$
300
D_{ghv}
240

FIG. 9

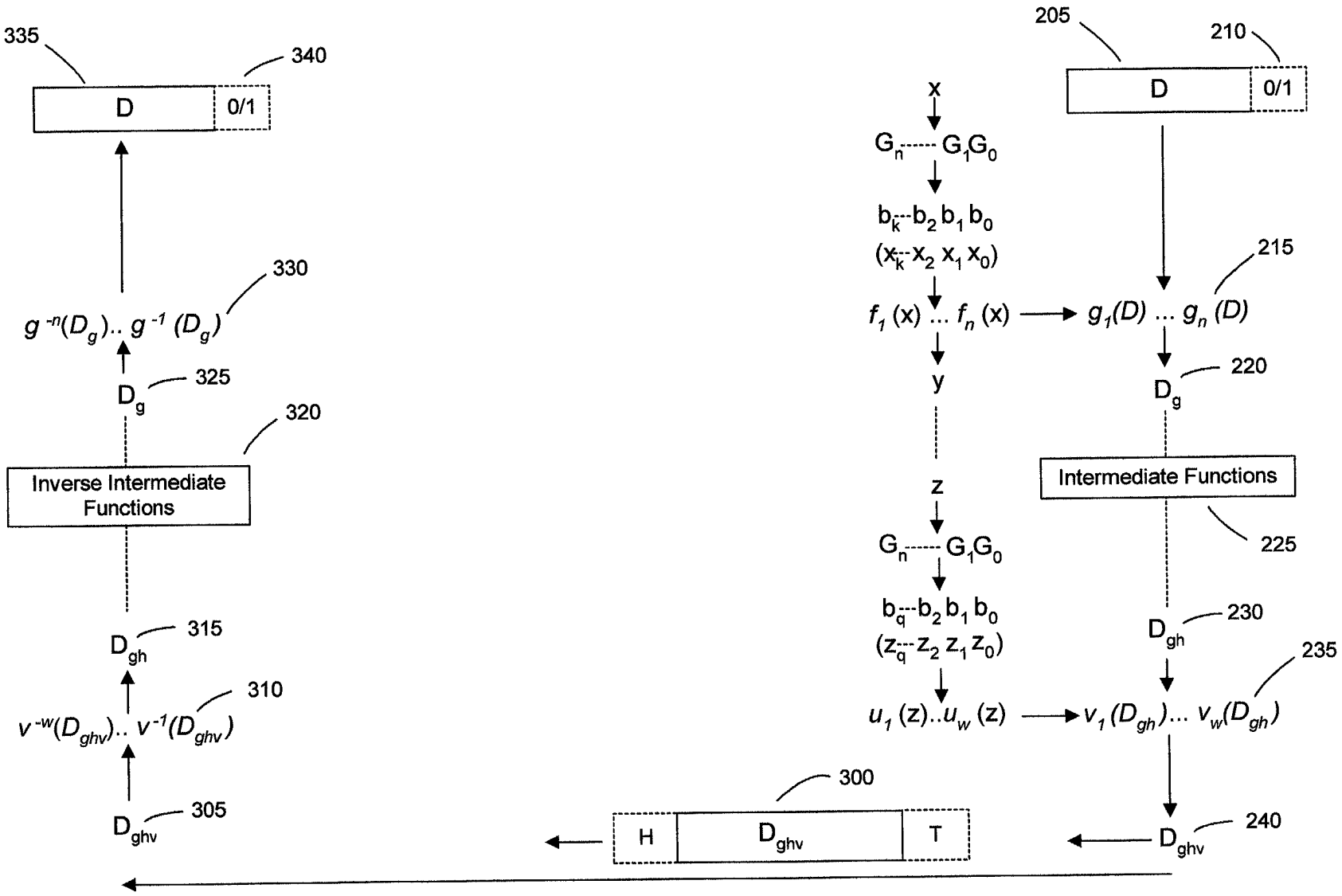

FIG. 10

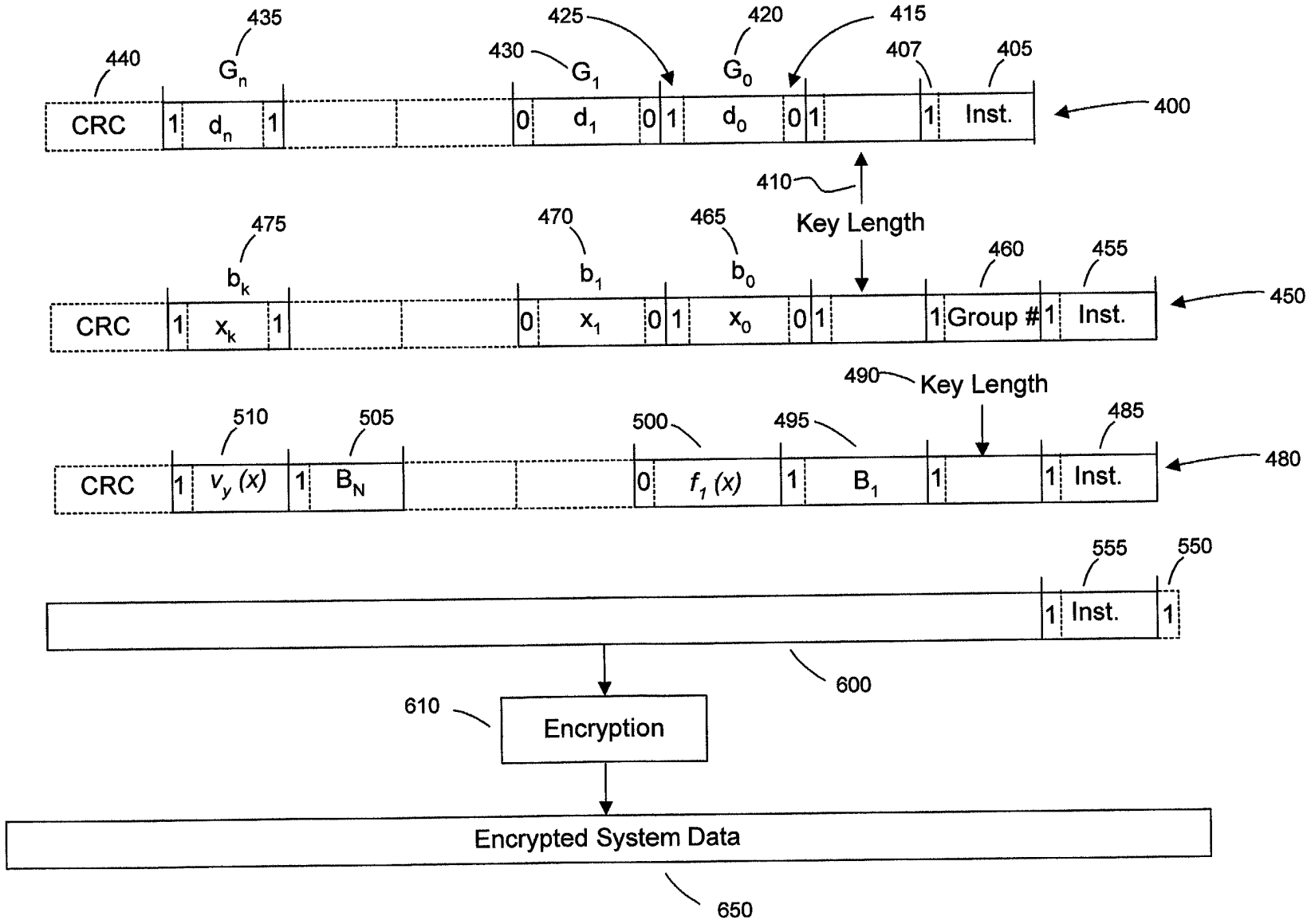
435
425
420
415
440
G_n
430
G_1
G_0
407
405
CRC
1
d_n
1
0
d_1
0
1
d_0
0
1
1
Inst.
400
410
Key Length
475
470
465
b_k
b_1
b_0
460
455
CRC
1
x_k
1
0
x_1
0
1
x_0
0
1
1
Group #
1
Inst.
450
490
Key Length
510
505
500
495
485
CRC
1
v_y (x)
1
B_N
0
f_1 (x)
1
B_1
1
1
Inst.
480
555
550
1
Inst.
1
600
610
Encryption
Encrypted System Data
650

FIG. 11

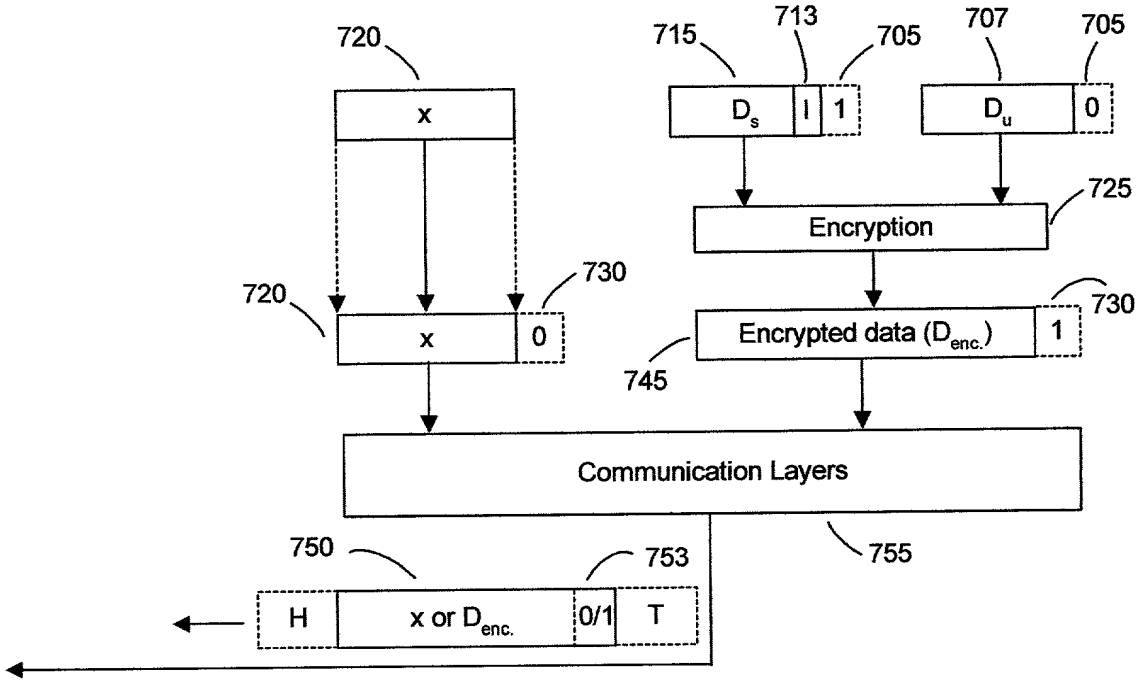

FIG. 12A

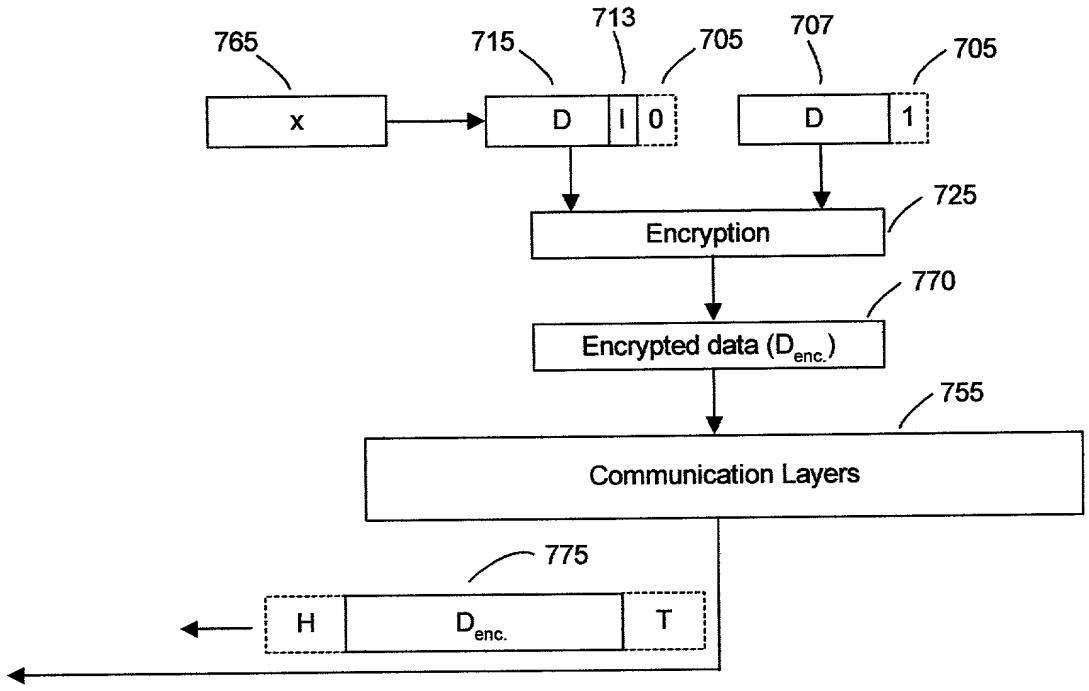

FIG. 12B

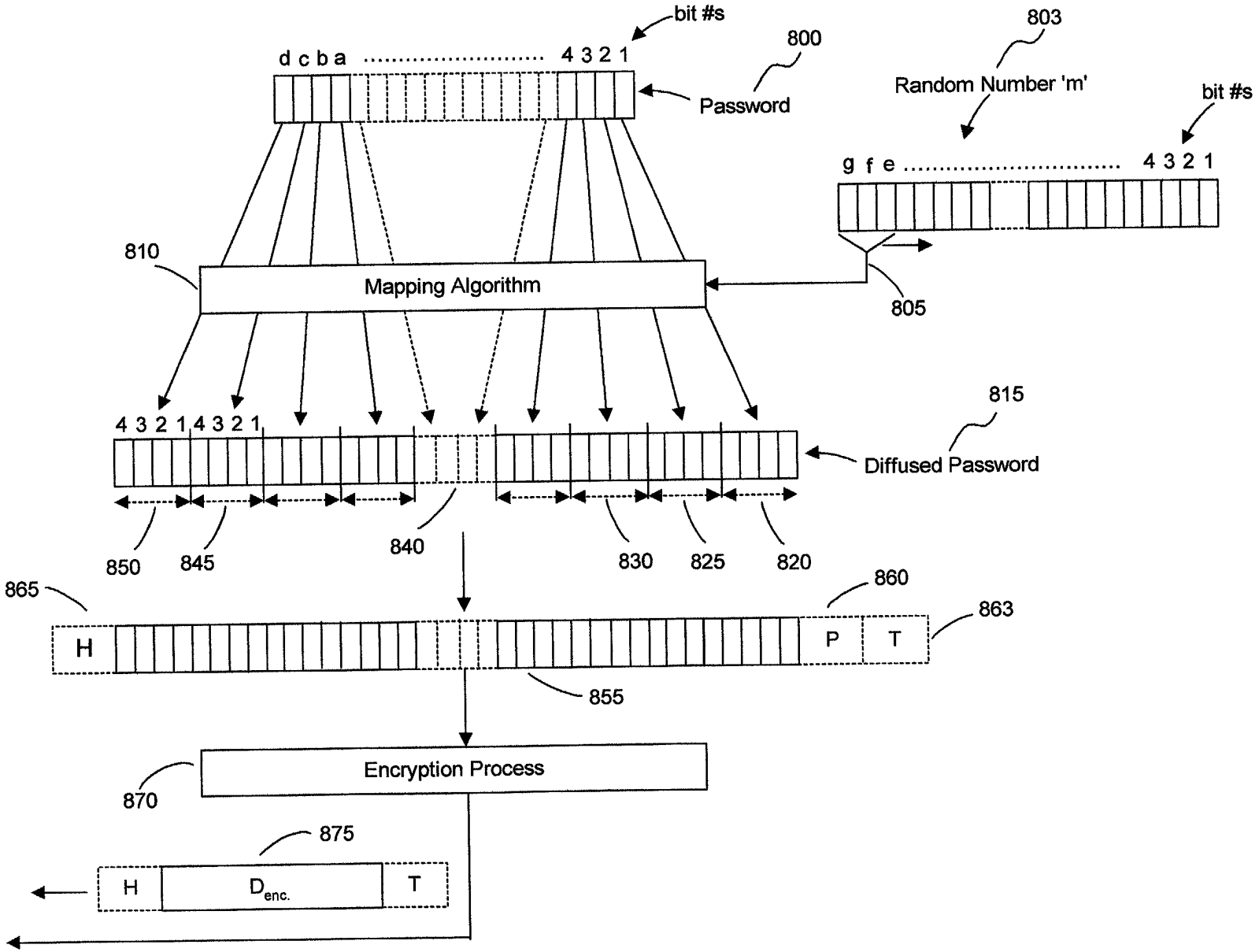
bit #s
d c b a 4 3 2 1
800
Password
803
Random Number 'm'
bit #s
g f e 4 3 2 1
810
Mapping Algorithm
805
4 3 2 1 4 3 2 1
815
Diffused Password
850
845
840
830
825
820
865
860
863
H
P
T
855
Encryption Process
870
875
H
$D_{enc.}$
T

FIG. 13

Table for Mapping Algorithm

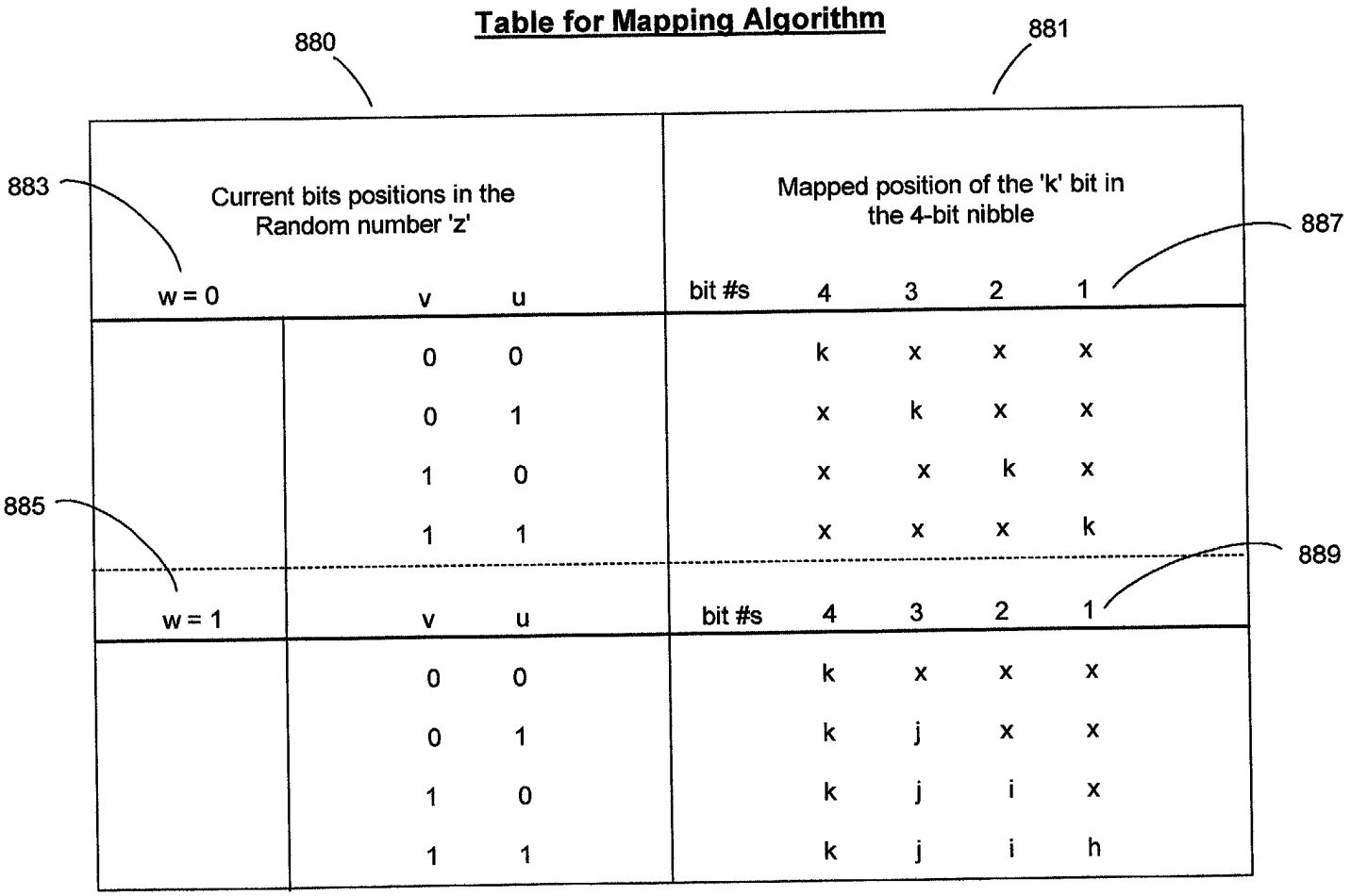

FIG. 14